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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT[s]: Agilent Technologies UK Limited on behalf of
David Chown, inventor

SERIAL NO.: 10/622,294 ART UNIT:

FILING DATE: July 18, 2003 EXAMINER:

TITLE: Transmission of Supervisory Data in an
Optical Communication System

ATTORNEY
DOCKET NO.: 871-011416-US / 30020591 US-02

Commissioner of Patents
P.O. Box 1450
Alexandria VA 22313-1450

PETITION UNDER 37 C.F.R. 1.47(b) SOLE INVENTOR CANNOT BE FOUND

Applicant, Agilent Technologies UK Limited, hereby petitions the Commissioner to accept the filing of the above-identified U.S. Patent Application by the Applicant because the sole inventor cannot be found.

In accordance with the guidance provided by MPEP 409.03(b), Applicant submits the following:

A) A Declaration is attached signed by Dr. James Lenney an authorized representative of the Applicant.

B) The Applicant was an employer of the inventor, Mr. David Chown from 15 June 1987 to 10 June 2003.

C) A Statement of Facts is attached hereto providing proof of the pertinent facts that the inventor cannot be found.

D) The last known address of the inventor is as follows:

Mr. David Chown
9 Castle Lane
Hadleigh, Ipswich, Suffolk IP7 6DE
United Kingdom

E) A copy of an employment agreement is attached, executed by the inventor, showing that the inventor has agreed to assign the invention to the Applicant. Dr. James Lenney, a duly authorized representative for the Applicant, states in the attached Statement of Facts that the invention was made by David Chown while in the employ of the Applicant.

F) A filing date of May 22, 2003 is necessary to preserve the intellectual property rights of the Applicant and irreparable damage will result if those rights are lost.

The fee for this petition, set forth in 37 C.F.R. 1.17(h) as \$130.00, is also included herewith.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,


Joseph V. Gamberdell, Jr.
Reg. No. 44,695

Date



Perman & Green, LLP
425 Post Road
Fairfield, CT 06824
[203] 259-1800
Customer No.: 2512

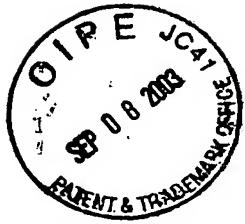


CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date indicated below as first class mail in an envelope addressed to the Commissioner of Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date: 9/5/03

Signature: Doris W. Person
Person Making Deposit



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STATEMENT OF FACTS UNDER 37 C.F.R. 1.47(b)

SOLE INVENTOR CANNOT BE FOUND

This statement is being filed concurrently with a petition under 37 C.F.R. §1.47(b). This statement is made as to the exact facts that are relied upon to establish the diligent effort made to secure the execution of the declaration by the nonsigning inventor for the above-identified patent application.

Dr. James Lenney, an authorized representative for the Applicant, Agilent Technologies UK Limited, having personal knowledge of the facts set forth herein says that:

1. On 4 June 2003, I sent a copy of a Declaration, Assignment, the application as filed, a stamped, self addressed envelope, and a first cover letter requesting review and execution of the documents and a reply as soon as possible, to Mr. David Chown at 9 Castle Lane, Hadleigh, Ipswich, Suffolk IP7 6DE, United Kingdom. These documents were sent return receipt requested. The return receipt letter

was returned, indicating receipt of the mailing on 6 June 2003.

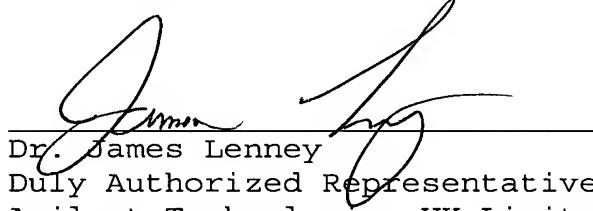
2. On 31 July 2003, I sent another copy of the Declaration, Assignment, the application as filed, a stamped, self addressed envelope, and a second cover letter requesting review and execution of the documents to Mr. David Chown at 9 Castle Lane, Hadleigh, Ipswich, Suffolk IP7 6DE, United Kingdom. The return receipt letter was returned, indicating receipt of the mailing on 7 August 2003.

3. As of 27 August 2003 I have received no reply to any of the aforementioned mailings.

4. The invention was made by David Chown while in the employ of the Applicant, Agilent Technologies UK Limited.

5. Exhibits 1-6 are provided in support of the above statements.

Respectfully submitted,



Dr. James Lenney

Date

27 August 2003

Duly Authorized Representative for the Applicant
Agilent Technologies UK Limited
Legal Department
Eksdale Road, Winnersh Triangle
Wokingham
Berkshire RG41 5DZ
UNITED KINGDOM

EXHIBITS

- 1) A copy of a first cover letter to Mr. David Chown dated 4 June 2003, stating that a Declaration, Assignment, and copy of the application are enclosed, and requesting Mr. Chown's signature on the appropriate documents.
- 2) Copies of the first Receipt for Certified Mail and a Return Receipt letter showing a delivery date of 6 June 2003 and Mr. Chown's signature.
- 3) A copy of the second cover letter to Mr. David Chown dated 31 July 2003, stating that a Declaration, Assignment, and copy of the application are enclosed, and requesting Mr. Chown's signature on the appropriate documents.
- 4) Copies of the second Receipt for Certified Mail and a Return Receipt letter showing a delivery date of 7 August 2003 and Mr. Chown's signature.
- 5) A copy of an Employee Confidentiality Agreement dated 20 December 2000 and signed by Mr. David Chown confirming ownership of all intellectual property rights (including patents) arising out of work carried out by Mr. Chown during the course of his employment with Agilent Technologies shall belong to Agilent Technologies.
- 6) A copy of the original Invention Proposal received on 3 May 2002 indicating Mr. David Chown as an inventor.

Royal Mail Tracking No:
SJ 5990 0293 5GB



Agilent Technologies UK Limited
Legal Department
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United Kingdom

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David Chown
9 Castle Lane
Hadleigh
Suffolk IP7 6DE

4th June 2003

Dear David

DECLARATION AND POWER OF ATTORNEY for inventor's signature

Case No. 30020591: "Transmission of Supervisory Data in an Optical Communication System"

Case No. 30020606: "Optoelectronic Module With Integrated Loop-back Capability"

Case No. 30020642: "Optoelectronic Module With Integrated Variable Optical Attenuator"

You may recall that nearly a year ago Agilent filed initial patent applications in respect of the cases identified above. We have now reached the stage where, to request corresponding patent protection abroad, we have to file applications in each of the countries of interest, and following discussions with the patent coordinator it has been decided to include the USA for your inventions. In the case of the USA the application must be signed by the inventor(s).

I enclose paper copies of the Declaration, Specification and Drawings for each case and I should be very grateful if you would review, sign and return the three sets of documents as soon as possible.

In respect of each application please review the specification (particularly the claims) and drawings (as required by the Declaration), and also read the Declaration itself. If you are happy that everything is in order, sign and date the Declaration in the space provided just under your printed name on the second page.

Please then return the entire set of documents for each case (Declaration, specification and drawings) to me in the Legal Department in the enclosed addressed pre-paid envelope.

If you have any queries, please don't hesitate to contact me on Tel. 0118 927 4210.

Thanks very much and my best regards,

A handwritten signature in black ink, appearing to read "T. Lenney" or "T. Lenney Jones".

pp James Lenney
Legal Department – IP Practice Group



Date: 30 June 2003
Your Ref:
Our Ref: 1-487608455
Track Ref: SJ599002935GB



Mrs Pauline Jones
Aglient Technologies UK Ltd
Eskdale Road
Winnersh
WOKINGHAM
RG41 5DZ

Royal Mail Customer Service Centre
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Dear Mrs Jones

Thank you for your enquiry received on 26th June 2003 about a Special Delivery letter, reference number SJ599002935GB, addressed to:

David Chown
9 Castle Lane
Hadleigh
IPSWICH
IP7 6DE

I can confirm that this item was delivered as addressed on and a photocopy of the signature we obtained is enclosed for your use.

Thank you for using our Special Delivery service and if we can be of any more help, please contact us again.

Yours sincerely

David Bradeley

David Bradeley
Customer Service Advisor

Enclosure: Copy of signature

To ensure that we maintain the highest possible standards the service we provide to you is monitored on our behalf by a research agency. Each month telephone interviews are conducted with a sample of the customers with whom we have been in contact. If you would prefer not to be contacted please call Freephone 0800 652 5900 within 7 days of the date of this letter and quote the reference above.

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6 JUN 2003

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Time 1 Print name E CROWFOOT

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EDWARDS

Time 3 Print name NATALIE BULL

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Natalie Bull

Time 4 Print name D. CHOWN

Check time and sign

D. Chown

REF - 1-487608455

Royal Mail Tracking No.

5J5990040216-B

Status as of 7/8/03 -

Held at Delivery Office awaiting collection
(V1473 820404)

Agilent Technologies

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Mr. J. J. Lenney - Enclosed copy of signatures

David Chown
9 Castle Lane
Hadleigh
Suffolk IP7 6DE

31st July 2003

Dear David

DECLARATION AND POWER OF ATTORNEY for inventor's signature

Case No. 30020591: "Transmission of Supervisory Data in an Optical Communication System"

Case No. 30020606: "Optoelectronic Module With Integrated Loop-back Capability"

Case No. 30020642: "Optoelectronic Module With Integrated Variable Optical Attenuator"

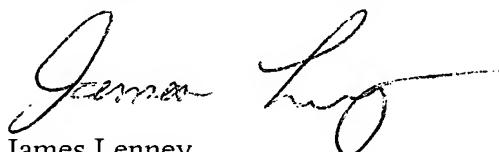
As you know from my earlier letter of 4th June, Agilent recently made foreign filing decisions on three cases for which you are the inventor, to file for patent protection in the USA. Also, that the US Patent Office requires, in respect of each patent application, that we make our best efforts to obtain a Declaration and Power of Attorney signed by the inventor.

I hope you will appreciate that the Legal Department is normally able to prepare filing documents and obtain any necessary signatures from inventors well in advance of the filing deadlines. Now, more than ever in these difficult times we are making every attempt to cause as little inconvenience as possible to inventors who understandably have more pressing priorities. It was therefore, most unfortunate that we did not have an opportunity to prepare the Declarations for you to sign in respect of these three cases before you left Agilent.

Nonetheless, I hope that I can trust to your goodwill in this situation and have therefore enclosed again the three Declarations and specifications for your review and signature. Once signed, they can be posted in the prepaid addressed envelope, which is also enclosed.

I would be more than happy to discuss the situation and any queries you may have if you would like to contact me on Tel. 0118 927 4210.

Many thanks for your cooperation and my best wishes for the future,



James Lenney
Legal Department – IP Practice Group

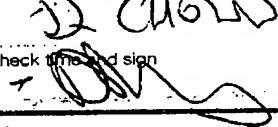
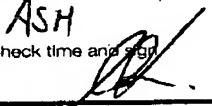
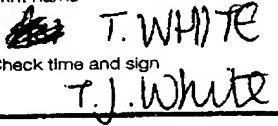
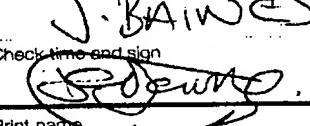


7/8/03

P 01



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EMPLOYEE CONFIDENTIALITY AGREEMENT

SECURITY OF INFORMATION AND INTELLECTUAL PROPERTY PROVISIONS

As part of my conditions of employment with Agilent Technologies UK Limited, (Agilent Technologies) I undertake to abide by the following provisions:

INFORMATION This provision concerns technical, commercial and other confidential business information (including trade secrets and know-how not generally known to the public) which is acquired or produced by me at any time during the course of my employment by Agilent Technologies (whether recorded on any medium or not).

I agree in respect of such information, both during and after my employment with Agilent Technologies:

- * not to disclose it to any third party (including any future employer) without the express written permission of Agilent Technologies;
- * to disclose it only to other Agilent Technologies' employees who are authorised to receive such information and need it for the effective performance of their duties;
- * to use it only in the performance of my duties for Agilent Technologies and not to use it for personal or private gain, in any future employment outside Agilent Technologies or in any manner which may lead to unauthorised use;
- * to ensure that any such information is not left unattended in a location where it can be seen or studied by any unauthorised person.

PHYSICAL ITEMS All records, whether held in written form, electronically or otherwise relating directly or indirectly to information referred to above (including documents, manuals, emails, laboratory notebooks, program listings, files, mailing lists and organisational charts) and all items embodying such information (including software, floppy discs, compact discs, digital video discs, prototypes, instruments, equipment and components thereof) shall, for the purposes of this agreement, be taken to be confidential and the property of Agilent Technologies. I agree to return to Agilent Technologies upon termination of my employment, any such physical items in my possession or borrowed by me.

OWNERSHIP OF RIGHTS All intellectual property rights (including patents, designs, copyright and IC mask rights) arising out of work carried out by me during the course of my employment with Agilent Technologies shall belong to Agilent Technologies. Inventions possibly qualifying for protection shall be communicated to Agilent Technologies promptly and in writing.

EXPLOITATION I acknowledge that Agilent Technologies shall have the exclusive rights of exploitation in any ideas or work products produced by me during the course of my Agilent Technologies employment. I also agree that I shall not, without prior written consent of Agilent Technologies, seek to exploit outside of Agilent Technologies any idea, or work product that utilises Agilent Technologies confidential information or relates directly to Agilent Technologies' business.

Date 20-12-2004

Your signature  Print Name D. CHAIN

Instructions: The information contained in this document is **AGILENT CONFIDENTIAL** and may not be disclosed to others without prior authorization. Submit this document to the Intellectual Property Practice Group of the Agilent Technologies Legal Department as soon as possible.

No patent protection is possible until a detailed patent application is authorized, prepared, and submitted.

Descriptive Title of Invention:

Bidirectional module

Name of Agilent Technologies Division/Lab and related Project:

OND / ICO PLUTO

Related Product Name/Number (if known):

Anticipated date and location of all the following (if applicable):

- i) first publication outside Agilent Technologies of information describing the invention
- ii) first demonstration/use of prototype embodying the invention to non-Agilent personnel
- iii) release of product embodying the invention

Initial discussion with customers under CDA

Contractual aspects:

If the invention was made other than in the course of normal in-house Agilent R&D please give brief details, for example if the invention was made:

- i) in a joint R&D programme
- ii) during the course of developing a product for a particular customer

Description of Invention:
Please preserve all records of the invention and supply a brief description covering:

- A. Technical problem addressed by the invention
- B. Prior solutions (if any) and their disadvantages
- C. Solution offered by the invention and advantages of the invention over what has been done before
- D. Brief description of how to implement the invention (please include diagrams, but avoid colour)

Inventor **Submitter**

Employee No. 454247 Full Name Andrew Harker Telnet 3125319 Entity & Lab OND/ICO

Inventor **Submitter**

Employee No. 454433 Full Name David Chown Telnet 3125205 Entity & Lab OND/ICO

To find your IP Attorney see Locate Legal Staff on the Agilent Legal website (<http://legal.agilent.com/>), or call Peter Kurz, Telnet 778-7145

A. Technical problem addressed by the invention

In an optical communication system most of the data which is carried over the system is 'payload' data - phone calls, email, internet etc - however some of the data is supervisory data, relating to the system itself. Supervisory data typically comprises status and fault signals transmitted from network equipment at remote locations in the network to a central network control centre, and command and control signals transmitted from the control centre to network equipment at remote locations. Often the supervisory data is transmitted on a supervisory channel, a wavelength separate from the wavelength or wavelengths on which the payload data is transmitted. Typically for a system in which the payload data is transmitted on channels in the C band, 1525nm to 1575nm, the supervisory channel is at 1510nm, 1600nm or 1300nm.

Typically the transmitters and receivers for the payload channels and the supervisory channel are assembled from discrete laser and photodiode components with the combination and separation of the payload channels and the supervisory channel performed by a discrete WDM coupler. These components have pigtails and are spliced together to perform the functions of launching, combining, separating and receiving the payload channels and the supervisory channel. Additionally electronics are required to drive the lasers in response to the digital payload and supervisory data inputs and provide digital payload and supervisory data outputs in response to the signals provided by the photodiodes.

Recently transmitter, receiver and transceiver modules have become available which, in systems without supervisory channels, eliminate the need for splicing discrete components together and providing additional electronics by providing in a single housing with an electrical connector receiving a digital electrical signal and an optical connector receiving a patchcord all the required electronic and optoelectronic components. This simplifies the work of Network Equipment Manufacturers (NEMs) as they no longer have to splice fibres and do not require the detailed knowledge of discrete lasers and photodiodes.

(C) It is an object of this invention to extend the advantages of no longer having to splice fibres and not requiring detailed knowledge of discrete lasers and photodiodes to systems with supervisory channels.

B. Prior solutions (if any) and their disadvantages

Fig.1 shows a prior art solution with discrete components spliced together. There are several splices to be made and much fibre to be handled and secured.

Fig.2 shows a prior art solution in which the payload laser and laser drive electronics and photodetector and photodetector electronics have been integrated into a transmitter module and a receiver module. There are still splices to be made and fibre to be handled and secured. It would also be possible to integrate the supervisory laser and laser drive electronics and photodetector and photodetector electronics into a transmitter module and a receiver module, but such modules are not commercially available, and would not eliminate all the splicing and fibre handling.

C. Solution offered by the invention and advantages of the invention over what has been done before

Fig.3 shows an embodiment of the invention in which the payload and supervisory lasers and laser drive electronics together with the WDM combiner have been integrated into a transmitter module and the payload and supervisory photodetectors and receiver electronics together with the WDM splitter have been integrated into a receiver module.

(C) The modules simply plug in to sockets on the circuit pack and the system fibres plug into the modules.

D. Brief description of how to implement the invention

Fig.4a shows the transmitter schematically. Light from the payload laser is collimated by a lens, shown conventionally as a double headed arrow, and transmitted through a beam splitter and an optional isolator before being focussed into the connector, for example a fibre stub, by a second lens. Light from the supervisory laser is similarly collimated and reflected from the beam splitter and transmitted through the optional isolator before being focussed into the connector by the second lens. At least one of the payload laser, supervisory laser, beamsplitter and isolator may be mounted on a thermoelectric cooler in a hermetic enclosure. The laser drive electronics are mounted on a PCB within the module housing. The electrical and optical connectors are mounted on the module housing.

Fig.4 shows the receiver schematically. Light from the connector is incident on a beam splitter. Light in the payload channel is transmitted by the beam splitter and is focussed by a lens onto the payload photodetector. Light in the supervisory channel is reflected by the beam splitter and is focussed by a lens onto the supervisory photodetector. The laser drive electronics are mounted on a PCB within the module housing. The electrical and optical connectors are mounted on the module housing.

Fig.5 shows a transceiver in which the transmitter and receiver functions of Figs 4a and 4b are integrated into a single housing.

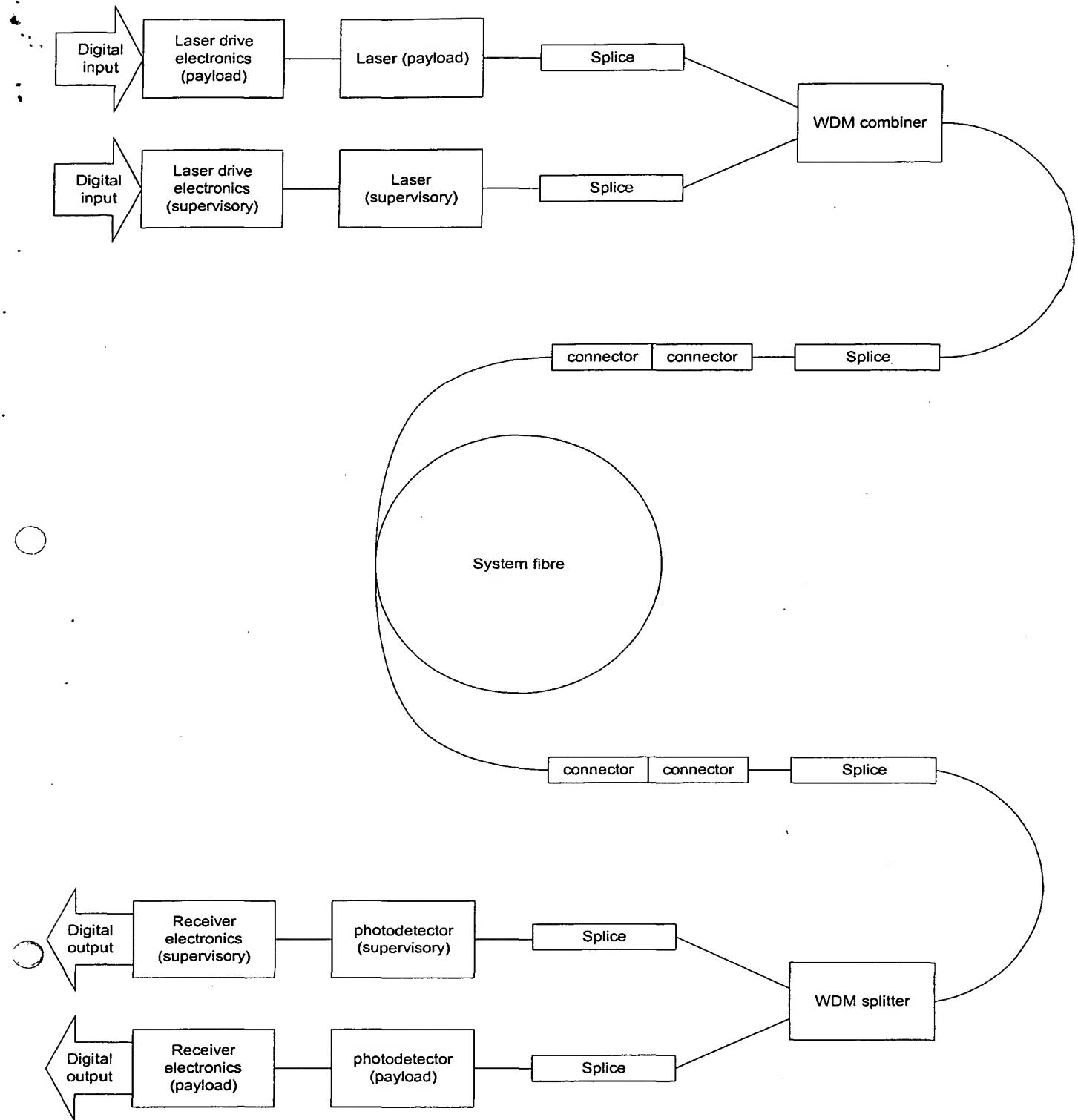


Figure 1



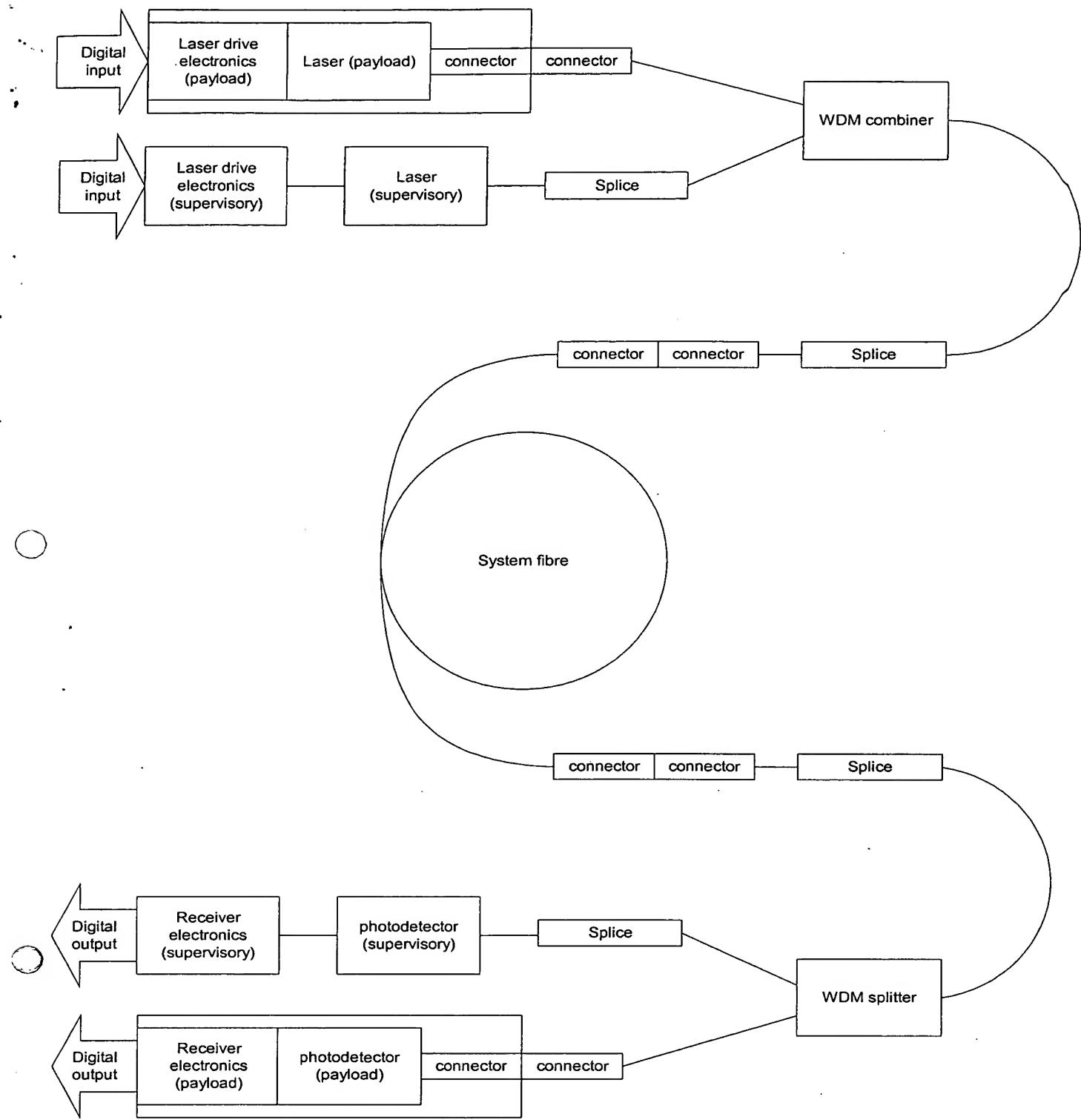


Figure 2



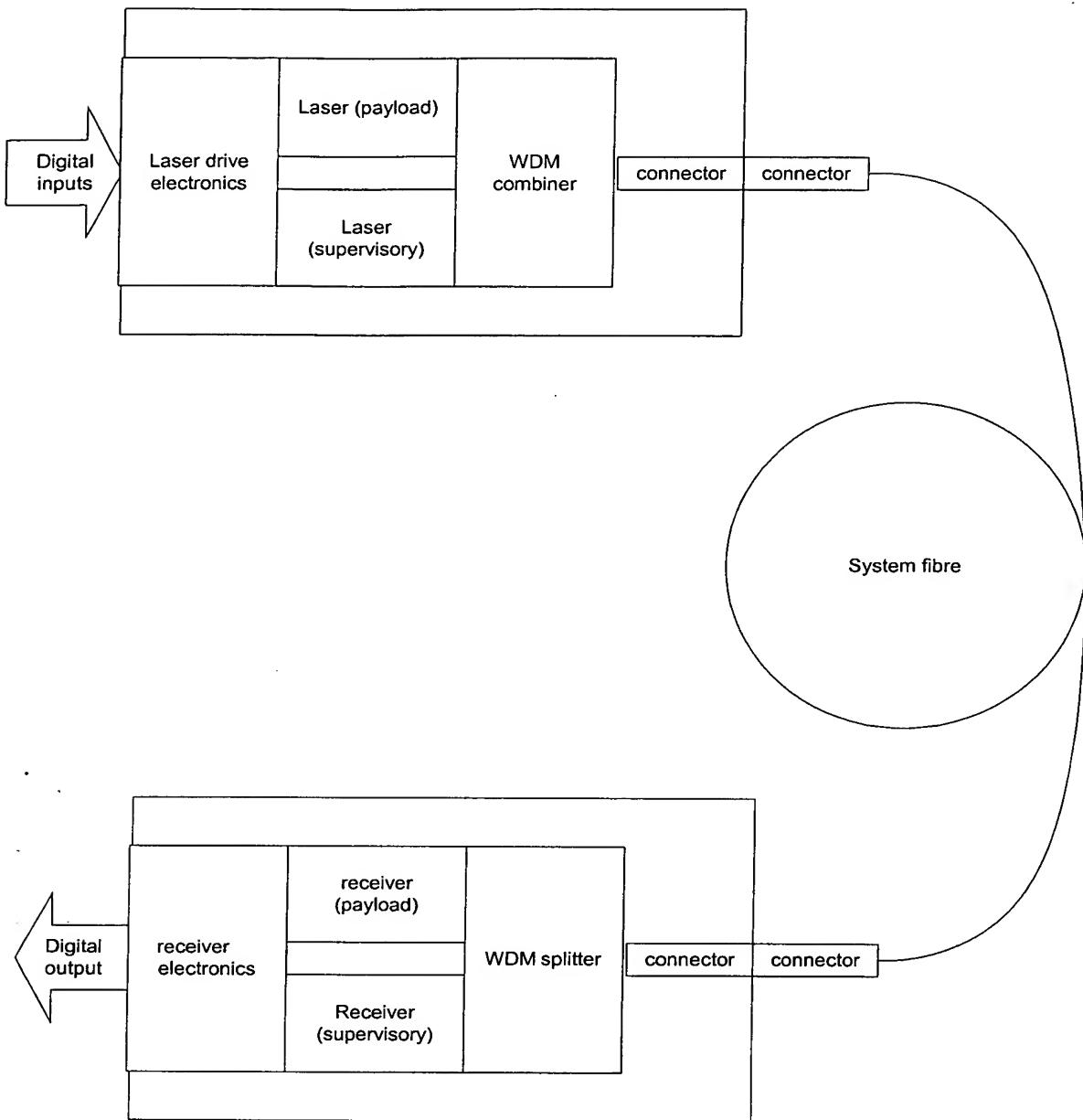


Figure 3



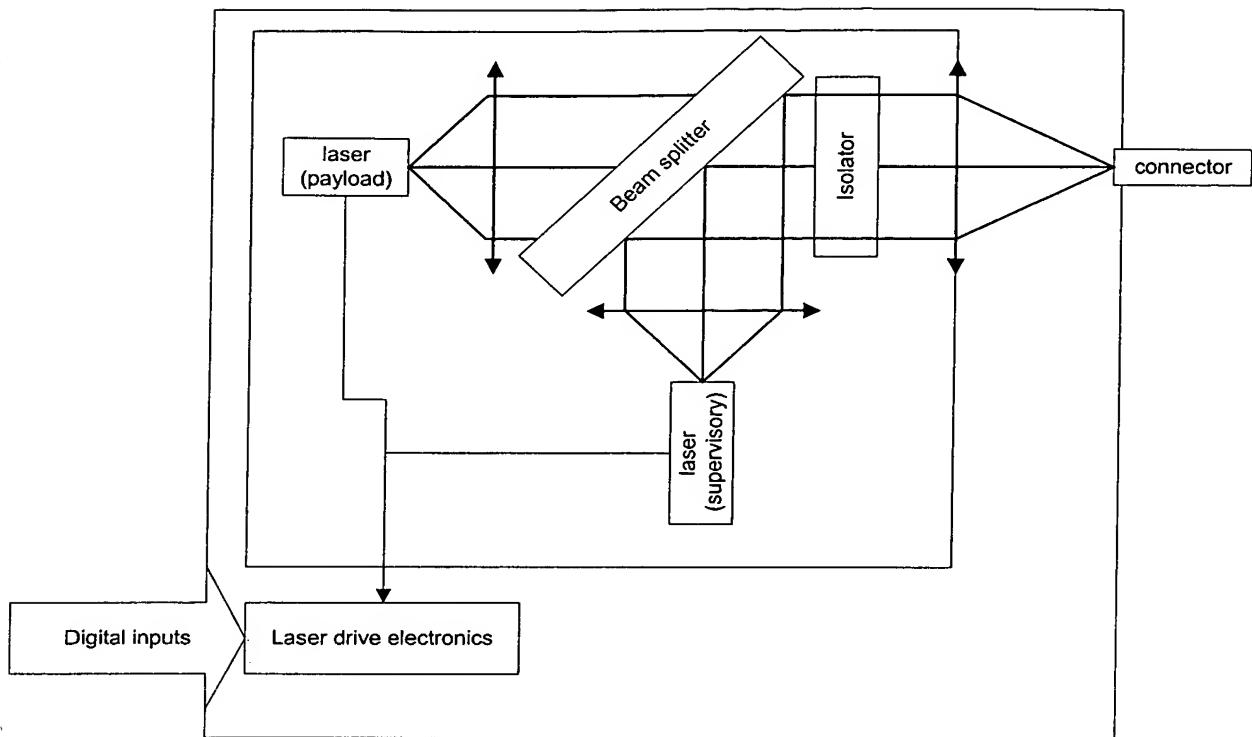


Figure 4a

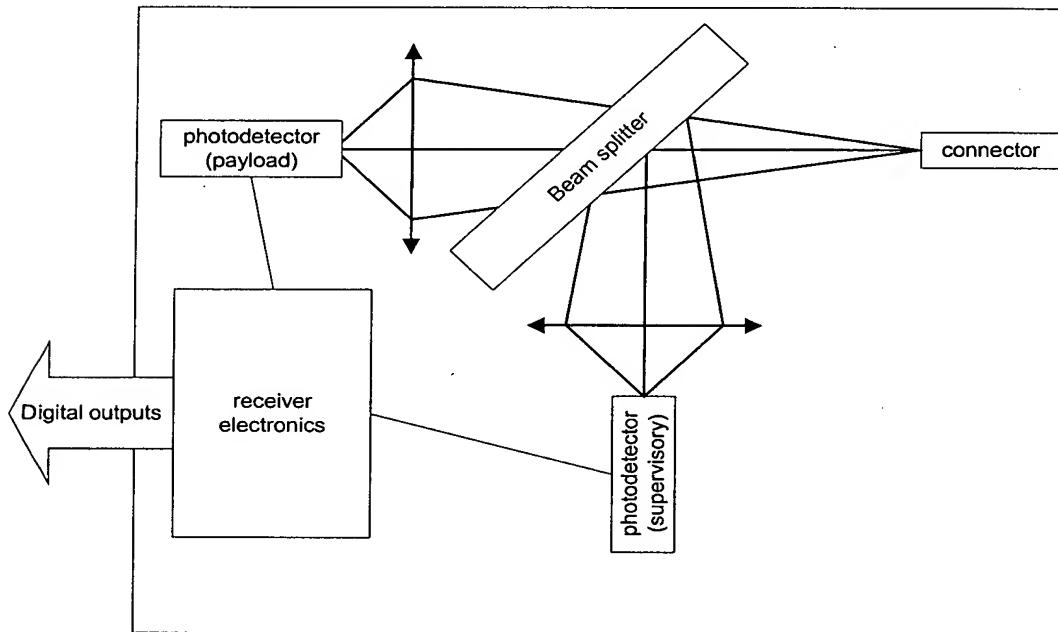


Figure 4b

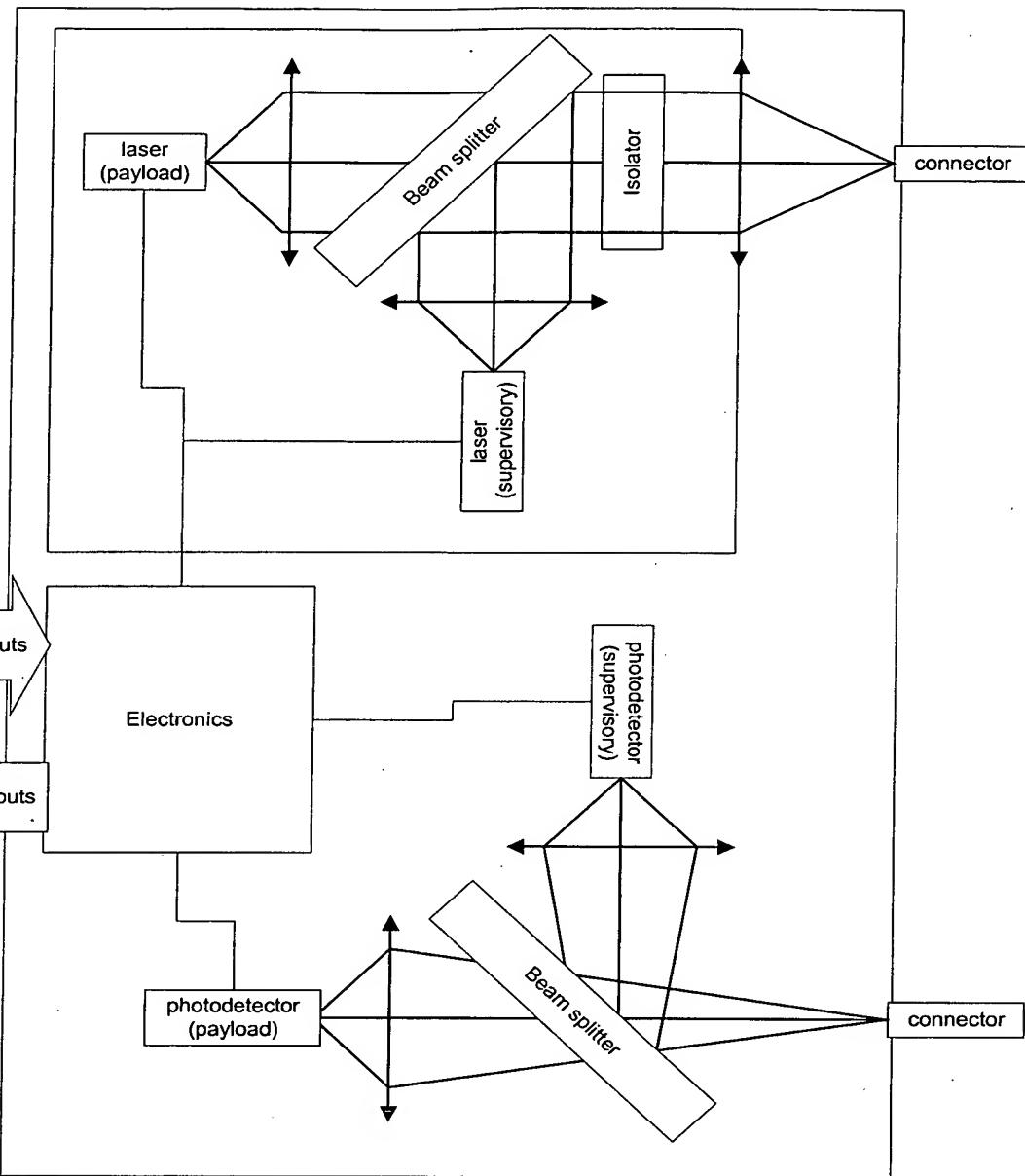


Figure 5

